

REMARKS

The applicants have carefully considered the official action mailed on June 21, 2007, and the references cited therein. In the official action, the drawings were objected to based on a spelling error, claims 8, 20, and 32 were rejected under 35 U.S.C. §112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter that the applicants regard as the invention, and claims 1-36 were rejected under 35 U.S.C. §103(a) as unpatentable over Fu et al. (“Software-Only Value Speculation Scheduling”) in view of Calder et al. (“Value Profiling and Optimization”). By way of this response, the applicants provide one replacement sheet to identify item 202 of FIG. 2 with the word “Dependencies,” and claims 1, 8, 9, 13, 20, 21, 25, 32, and 33 are amended. Claims 1-36 remain pending in this application, of which claims 1, 13, and 25 are independent. Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

The applicants respectfully submit that claims 8, 20, and 32, as amended, now satisfy the requirements of 35 U.S.C. §112, second paragraph. In particular, claims 8, 20, and 32 now depend from claims 7, 19, and 31, respectively. Accordingly, the applicants respectfully request that the rejection of claims 8, 20, and 32 under 35 U.S.C. §112, second paragraph, be withdrawn.

The applicants respectfully submit that claim 1, as amended, is allowable over the art of record. Independent claim 1 recites, *inter alia*, receiving a plurality of variable value patterns, selecting at least one of the plurality of variable value patterns based on an accuracy, and determining a predicted value of the variable based on the at least one selected pattern. None of the cited references describes or suggests

receiving a plurality of variable value patterns, selecting at least one of the plurality of variable value patterns based on an accuracy, and determining a predicted value of the variable based on the at least one selected pattern, as recited in claim 1.

The examiner appears to contend that Fu et al. describe determining a predicted value of the variable based on a pattern (*see page 4 of the official action*). While Fu et al. describe an example of value speculation scheduling, in which a prediction load instruction (LDPRED) is employed (*see section 2, page 7*), Fu et al. fail to describe or suggest selecting a variable value pattern. In fact, Fu et al. fail to describe or suggest a plurality of variable value patterns, much less selecting at least one of the plurality of variable value patterns based on an accuracy. Instead, Fu et al. appear to merely employ the LDPRED instruction without any consideration of success, failure, or any other metric, such as an accuracy. Unlike selecting a variable value pattern based on an accuracy, Fu et al. describe employing a stride value that is permanently fixed by the compiler (*see Fu et al., page 7, second paragraph*). As such, Fu et al. also fail to describe or suggest determining a predicted value of the variable based on the at least one selected pattern.

The applicants also submit that Calder et al. fail to cure the deficiencies of Fu et al. While Calder et al. describe an example instruction that may write a pattern to a register in a repetitive manner, such descriptions merely exemplify conceptual differences between last value predictions and invariance (*see Calder et al., section 4.2, paragraph 2 on page 13*). Moreover, Calder et al. are completely devoid of receiving a plurality of variable value patterns, much less selecting one. Although Calder et al. describe that last value predictions may have a corresponding accuracy, Calder et al. fail to describe or suggest selecting at least one of the plurality of

variable value patterns based on an accuracy, much less determining a predicted value of the variable based on the at least one selected pattern.

Accordingly, the applicants submit that neither Fu et al. nor Calder et al., alone or in combination, can render independent claim 1 obvious. Thus, the applicants maintain that, for at least the above reasons, independent claim 1 is allowable over the art of record, and that the rejection of claim 1, and claims 2-12 dependent thereon, must be withdrawn.

Independent claims 13 and 25 are also patentable over the art of record for at least the reasons set forth above in connection with claim 1. Thus, the applicants respectfully submit that these claims, and all claims dependent thereon are also in condition for allowance. Reconsideration is respectfully requested.

The applicants respectfully submit that all pending claims are now in condition for allowance. If there are any remaining issues in this application, the applicants urge the examiner to contact the undersigned agent at the number listed below.

The Commissioner is authorized to charge any deficiency in the enclosed check toward payment of any fee due for the filing of this paper to deposit account number 50-2455.

Respectfully submitted,

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